The Massachusetts Leaders Manual to Coordinating a Volunteer Lake Watershed Survey

Massachusetts Riverways Program

Lake/Watershed Stewardship Program

ACKNOWLEDGMENTS

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of the Department of Fisheries, Wildlife, and Environmental Law Enforcement.

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The Massachusetts Leaders' Manual to Coordinating a Volunteer Lake Watershed Survey is based on the field projects of the pilot Lake/Watershed Stewardship Program. The process used is based on one explained originally in a 1996 publication by Riverways' Adopt-A-Stream Program titled *Shoreline Survey: A Stream Team Monitoring Project: Leaders' Manual*. This document is intended to complement the Department of Environmental Protection's *Massachusetts Volunteers Guide to Surveying a Lake Watershed and Preparing an Action Plan.*

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Appendices

Also see the accompanying Compact Disc for digital copies of this manual, the appendices, and other materials useful in organizing a Lake Watershed Survey.

Introduction

Lake/Watershed Stewardship Program

The purposes of the Lake/Watershed Stewardship Program are to (1) help citizens find root causes of water quality problems and (2) support grassroots planning and implementation of actions that help restore lake water quality and improve watershed management. The program achieves its purposes by:

1.) Developing and field-testing watershed survey methods with a series of pilot surveys on lake watersheds statewide, and;
2.) Coordinating a "Train-the-Trainer" program to share these methods with nonprofit partners around the Commonwealth.

History

In November 2001, the Massachusetts Riverways Programs (Department of Fisheries, Wildlife, and Environmental Law Enforcement) launched the pilot Lake/Watershed Stewardship Program with federal funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (DEP) under an s. 319 competitive grant. Working collaboratively, the Riverways Programs partnered with DEP and the Department of Environmental Management (DEM), as well as nonprofit partners. The pilot's Technical Advisory Committee included representatives from DEP's Nonpoint Source Program, the DEM Lakes and Ponds Program, Massachusetts Congress of Lakes and Ponds (COLAP), Lake and Pond Associations of Western Massachusetts (LAPA-West), and the Massachusetts Water Watch Partnership. Based on the successful Riverways' Adopt-A-Stream Program, the pilot brought together lake groups, residents on tributaries to lakes, town officials, sportsmen, and recreational users to address watershed protection for lakes and ponds.

The Lake/Watershed Stewardship Program is a grassroots effort - tools and training are provided to citizens so they can take the steps necessary to protect the natural resources in their communities.

What is a Lake Watershed Survey?

A lake watershed survey is a visual survey of a lake or pond, tributary and outlet streams, and the lake's watershed, designed to look for the sources of nonpoint source pollution (i.e. the diffuse sources and situations contributing to the degradation of lake and tributary stream water quality). Trained volunteers use the survey to assess the lake or pond's shoreline, the stream corridors of the tributaries and the outlet stream, and the upland watershed area.

Watershed surveys lead to actions to protect and restore lakes and ponds and their watersheds. By identifying and reporting problems to municipal and state officials, by designing projects to enhance existing conditions or remediate problems, and by raising awareness of communities and individuals, groups are able to achieve milestones in

- restoring water quality
- identifying nonpoint source pollution
- protecting and restoring habitat

As part of their effort to protect and restore lake watersheds, lake stewardship teams and lake watershed associations use watershed surveys to

- generate baseline data from field observations
- determine priorities
- create and implement an Action Plan for the watershed
- increase the body of active and aware watershed residents

Watershed Survey Process Development

The pilot was based on the Massachusetts Adopt-A-Stream Program's successful Shoreline Survey process. Developed and field-tested for over ten years, the Shoreline Survey process brings residents and municipal officials together for data collection, action planning and

implementation. Because each survey uses "bottom up" decision making with technical assistance from Riverways, the process successfully promotes local assessment, protection and restoration of Massachusetts' rivers.

Before the pilot Lake/Watershed Stewardship Program was launched, state agency staff and nonprofit organizations collaborated to plan a lake survey process and agreed to adapt the Shoreline Survey process to lakes. As a first step DEP published *the Massachusetts Volunteers Guide for Surveying a Lake Watershed and Preparing an Action Plan*. The *Volunteers Guide* provides excellent technical background on why a survey process is needed for lake and pond watersheds in Massachusetts, gives a thorough overview of two of the most common problems facing lake watersheds - phosphorus issues and eutrophication - and outlines the principles of a watershed survey.

Riverways took the next step: to develop the field methods and practical logistics of how to organize residents for these surveys and to field-test the methods with actual surveys across the Commonwealth. The Riverways Lake/Watershed Stewardship Program coordinator conducted watershed training statewide for one hundred eighty-five volunteers on twenty-two lakes and ponds and sections of thirty-one streams, along the way tracking successes and problems, and making adjustments to improve the process and protocols.

Train-the-Trainer

A major goal of the pilot was to expand the Lake/Watershed Stewardship Program beyond its existence as a state pilot by establishing regional providers to assist citizens statewide. To achieve this goal, Riverways established a Train-the-Trainer Program to provide nonprofit and other organizations with the tools needed to coordinate volunteer Lake/Watershed Surveys for lake and pond watersheds in their region. The Train-the-Trainer Program provided rigorous training on the methods piloted and honed during the project and included participation in an actual Lake Watershed Survey.

The Massachusetts Leaders' Manual to Coordinating a Volunteer Lake Watershed Survey

In the final months of the pilot Lake/Watershed Stewardship Program, Riverways conducted Train-the-Trainer Workshops with staff from nonprofit partners across the state. The Technical Advisory Committee recommended tools and guidebooks for trainers to use as they coordinate citizens for a survey. The first guidebook, DEP's *Massachusetts Volunteers Guide for Surveying a Lake Watershed and Preparing an Action Plan (Volunteers Guide)*, provides technical material and a preliminary outline; this second guidebook, *the Massachusetts Leaders' Manual to Coordinating a Volunteer Lake Watershed Survey (Leaders' Manual)*, provides protocols and data sheets based on field experience and input from volunteer participants in the pilot Lake Watershed Surveys. Riverways' *Leaders' Manual* and accompanying compact disc contain materials accumulated and modified from the pilot watershed surveys conducted under the guidance of the Lake/Watershed Stewardship Program, including agendas, letters, sample action plans, and data sheets. Often, we will refer back to DEP's *Volunteers Guide* for specific technical matters that are already well addressed in that text. We hope you find these materials useful and that citizens all over the state benefit from the pioneering surveys of their neighbors in these initial efforts.

Copies of the *Volunteers Guide* can be obtained from DEP's web site at:
http://www.state.ma.us/dep/brp/wm/wqassess.htm

Copies of Riverways' Leaders' Manual can be found at:
www.massriverways.org

Lake/Watershed Stewardship Process

Participants working with the Lake/Watershed Stewardship Program follow a six step process:

(1) Local Planning:

- With support from a trained coordinator, residents create a local steering committee comprised of residents, lake and watershed association members, municipal officials, and local businesses. This steering committee plans the survey and invites volunteers to form a working lake/watershed team.

(2) Education and Training:

- The coordinator and technical experts provide an overview of watershed ecology as well as general impacts to water bodies caused by nonpoint source pollution.
- Local residents contribute local knowledge and background.
- Through a facilitated workshop, volunteers who comprise the Lake/Watershed team learn how to conduct a watershed survey and prioritize their findings.

(3) Coordinating the Watershed Survey Field Work:

- Members of the Lake/Watershed team conduct the visual, nonpoint source pollution survey on the lake and tributaries as well as the overall watershed, and prioritize problems.

(4) Action Planning:

- Lake/Watershed team, through a facilitated planning meeting, turns their findings into actions to improve the health of the Lake/Watershed and water quality.

(5) Implementation:

- In a follow up meeting, task forces may form to prioritize and carry out action plan recommendations. The coordinator, steering committee, and technical experts share information about funding and provide technical assistance to help carry out the identified actions.
- The Lake/Watershed team implements actions they've chosen.

(6) Reporting:

- With guidance from the coordinator, each volunteer group prepares a report to be presented to municipal officials, libraries, residents, watershed teams, state agencies, and nonprofit groups to share their findings, priorities and recommendations. This report will raise awareness, lead to restoration and protection, and serve as an historical record and could be used for documentation for grants.

1. Local Planning
Working with a Steering Committee

THINK LOCALLY

A watershed survey starts with local community members' concerns about the health of the lake or pond. The Lake/Watershed Stewardship pilot program, like all of the Riverways Programs, operates with the premise that the people who live on and use a stream or lake are the ones who are best able to protect and restore it. For the pilot watershed surveys, Riverways focused on lakes and ponds with active lake associations, neighborhood committees, and stream advocates. Trainers can either expand existing groups to include additional partners or create new "lake watershed stewardship teams."

STEERING COMMITTEE

One of the first tasks is to create a local steering committee to oversee the watershed survey.

The local steering committee serves to oversee the planning and logistics for the watershed survey and to give it a local focus. Ideally, it will be composed of local residents, nonprofits, businesses, and municipal officials – there should be representatives of both the lake and tributary areas. By including both residents and officials, the steering committee can effectively ensure that the survey is coordinated with other ongoing environmental projects and that partners can ensure action will be taken. Tasks the committee will need to complete include:

- determining the timetable for the survey and the necessary public meetings (steering committee meetings, watershed survey training, action planning meeting, implementation meetings),
- setting up locations for the meetings,
- recruiting volunteers and conducting outreach to publicize the survey,
- inviting stream and pond abutters in the watershed to participate in the survey and informing them of any potential need for access to private property,
- coordinating efforts to implement the action plan
- compiling and printing a final report of the watershed survey results and action plan
- determining logistics – who takes care of copying the field sheets, getting maps made, composing and sending out letters, PR

How to organize a steering committee

Starting with the community members who want to conduct a watershed survey on their lake or pond, recruit the necessary partners for a successful steering committee. Generally, the success of the survey depends on the quality of the steering committee. It need not be large (6-8 people), just effective. Often this will include representatives from the Conservation Commission (or the Conservation Agent), the Department of Public Works, the Board of Health, and the Select Board or City Council, in addition to members of local conservation or environmental organizations, lake and pond associations, watershed associations and Stream Teams. Talk with the community members to find out who else should be included – every town is different. In some towns, residents joke that nothing happens without some key player - it could be a planning board member, community leader or staff person from the DPW. Be sure they get invited. Look to business leaders known to be civic leaders or to have a direct

What to bring?
- maps of the watershed
- copies of agenda
- data collection forms
- Case Study - Mill Brook Watershed Survey
- DEP Volunteers manual
- TMDL (if there is one)

connection to the lake or tributary stream. Have the folks who live in the community do the inviting, both because they personally know the key players, and only they can create the local networking base for lake watershed protection.

FACILITATING STEERING COMMITTEE MEETINGS

At the first meeting, be sure to acknowledge that local leaders initiated the watershed survey process because of interest in protecting the resource. Emphasize that this is a local, grassroots effort, and that as a facilitator you are there to provide a framework for assessment and planning.

Although it would be good to have someone on the steering committee serve as ongoing chair, the trainer will want to facilitate the steering committee meetings leading to the watershed survey and implementation phase. The important ground the steering committee will need to cover is outlined in the attached sample agendas and includes:

- provide overview of the watershed survey process,
- find out how a watershed survey in **this** watershed will provide background for solving problems and how it complements other ongoing environmental projects,
- determine what information gathering could be added to the survey that might strengthen the efforts of the municipal partners (e.g., the Conservation Commission asks that surveyors note pipes, track signs of particular wildlife, or report problems with erosion controls at construction sites),
- determine the best time to conduct the survey,
- determine who the survey participants will be, and who will recruit them,
- establish timelines and tasks, assign responsibilities for completing them on time,
- determine logistics as spelled out in the agenda *(see sample agenda on page 13)*

Good facilitation skills are key to an effective steering committee meeting. Aim for a productive, efficient meeting that allows the committee members to provide background information and direct the planning for the survey. (A good facilitator must walk a fine line between being responsive to concerns/questions and getting bogged down on particulars.)

General hints for good meetings:
- Send agendas in advance of the meeting
- Bring a sign-in sheet
- Greet everyone
- Introductions around the room - including why interested in the survey
- Take careful minutes, to be shared via e-mail.

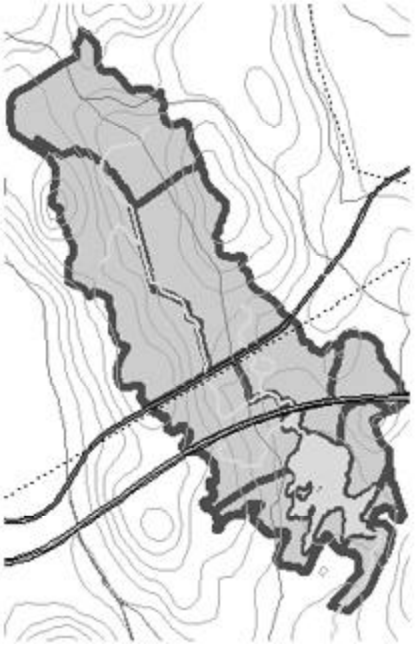
Keeping minutes

It is important to keep careful minutes from the steering committee and distribute them to the group afterwards as soon as possible. This ensures a careful record of everyone's opinions and concerns, the relevant background and context for the survey, and a list of who has responsibility for each task.

Dividing the watershed into survey sections

Either the full steering committee or a special subgroup will need to **divide up the watershed map into manageable survey sections.** In Appendix C of the DEP *Volunteers Guide* (and p. 26-27) has good advice for dividing the watershed into survey sections and general information about reading maps. (*Riverways'* Leaders Manual *recommends that survey sections to be small enough for a pair of volunteers to cover in 3-4 hours).*

To conduct the survey, volunteers will walk and/or canoe as much of the watershed area as is possible and practical. A useful strategy is to map out survey sections for the entire basin assuming an ideal number of volunteers, (giving each pair of volunteers 3-4 hours of work). Then prioritize the sections such that if you have a smaller group you're able to



cover the most important regions, (areas close to lake or tributaries, areas with history of problems, particular land uses). The sections will include near-shore areas of the lake (shoreline and immediately adjacent land areas), the stream corridors of all the tributaries, and the upland areas that drain to the lake or tributaries. Much of these areas can be covered from public property. Near-shore areas of the lake and larger stream corridors can often be surveyed by canoe or kayak; much of the upland watershed area can be surveyed from public roads and trails. See an example of a watershed survey section maps on page 12 and on the compact disc.

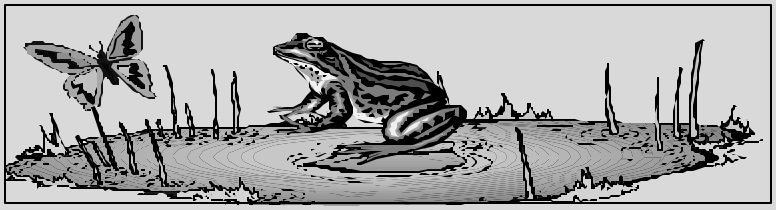
OUTREACH

The members of the steering committee will coordinate outreach to publicize plans for the watershed survey and will recruit volunteers to conduct the survey and participate in the action planning. Invitations to stream and lake abutters will serve to invite them to participate as well as informing them before the survey begins that participants may need to access the waterways near their property for the survey. Finally, the steering committee will invite the relevant municipal and state officials not already participating.

Abutter Notification

It is important to contact and involve landowners. In walking the tributaries or pond shores you may be walking along the edge of private property. Many homeowners along the lakeshore and streams will enthusiastically support and participate in the survey. It is usually sufficient to send a simple letter inviting them to the survey training and indicating volunteers may skirt their property while surveying. Include a local contact person's phone number to handle questions and concerns from abutters receiving the letter. For large landholdings (farms, golf courses, industrial parks), it can be useful to actually get permission to tour the property in its entirety. In contacting larger landholders, a phone call and more personalized letter will be the better option. If any members of the steering committee have personal contacts with the landholder, delegate the contacting to them.

SAMPLE LETTER TO LANDOWNER (Lake Onota Watershed, Pittsfield)



Dear Resident,

We are writing to ask for your help in an upcoming volunteer effort to help keep Onota Lake healthy!

Starting on May 3rd watershed residents will be canoeing along the lake shores and walking neighborhood roadways in order to assess the overall environmental well-being of the watershed. They'll be looking for good wildlife habitat, spots where wildlife habitat could be improved, and spots where erosion or storm run-off could be hurting the lake and the streams that help feed it.

The Lake Onota Preservation Association, the City of Pittsfield and the Berkshire Regional Planning Commission are coordinating this effort, with assistance from the State's Lake/ Watershed Stewardship Program (Riverways Programs; Department of Fisheries, Wildlife, and Environmental Law Enforcement). We will be holding a training session for volunteers on what to look for in the watershed on Wednesday, April 30th at the Controy Pavilion from 5 PM to 7 PM, before we start the survey on May 3rd. You are very welcome to join us. The Controy Pavilion is located in Pittsfield at the end of Lakeway Drive, off of Pecks Road.

As a property owner along Onota Lake's shoreline or main tributary stream, you know the waterways best and we invite your participation. Additionally, we would like to inform you that to accomplish this survey, the volunteers will access the waterways via road crossings and then either walk or canoe their sections. Care will be taken not to traverse any private property, but it may be necessary to walk along the river's banks and pond shores in certain areas.

If you have any questions, or would like to volunteer to help, please call Melissa Jette of the Berkshire Regional Planning Commission at 413/442-1521.

Thanks in advance!

see compact disc for more examples

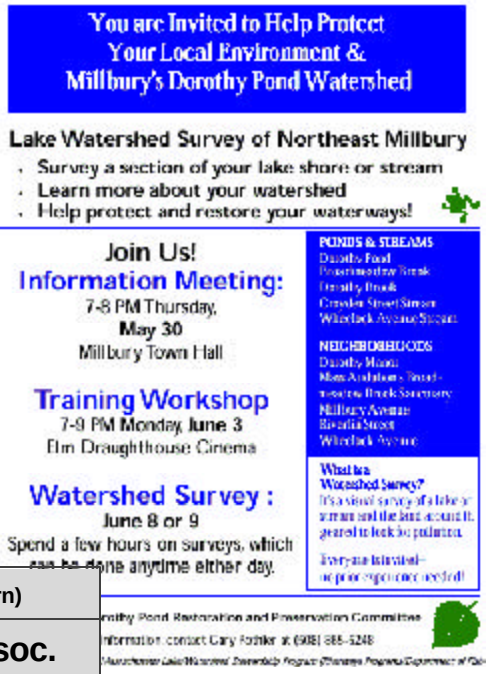
Recruiting Volunteers

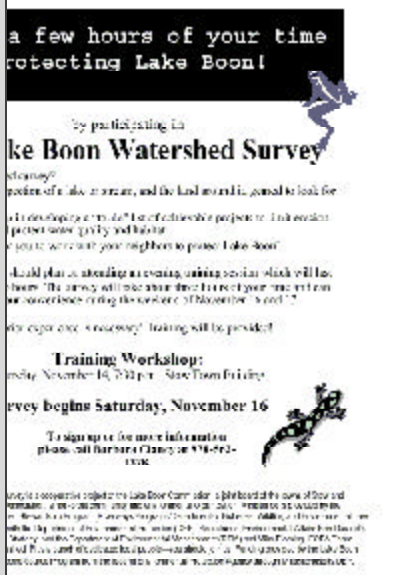
As we mentioned above, a great source of volunteers are the people who live on the lake and its tributaries. The local steering committee can identify folks in the community who are a good bet. Usual suspects include members of the lake association, watershed association, rod and gun clubs, garden club, recreational users, other residents, and municipal officials. The local steering committee members will also know how best to reach people around town – **word of mouth is almost always the most effective means to attract volunteers.** It is often also good to post flyers at bulletin boards and seek media publicity. Written invitations can be sent to relevant municipal officials with a follow up call to the most

important officials. All that being said, it has been shown repeatedly that the most successful way to get folks involved is a personal visit or phone call from someone they know.

Publicity

Cultivating the press or local TV station in advance results in the best media coverage. Often a reporter will write up the project and come out for a photo op. Write and send press releases, photos and calendar notices to the local media (see examples).





SAMPLE PRESS RELEASE (Leesville Pond Watershed, Worcester/ Auburn)

Leesville Pond Watershed and Neighborhood Assoc.

Mailing Address
Phone: (508) 754-#### and Fax: (508) 754-#### E-mail: xxxxx@watershedsurvey.org

June 7, 2002

ATTENTION: John Monahan
Worcester Telegram and Gazette
VIA Fax: (508) 793-9281

PRESS RELEASE Contact: Name, 508-754-####

WORCESTER and AUBURN – The Leesville Pond Watershed and Neighborhood Assoc. and the Quinsigamond Village Community Center are working together to identify pollution problems that are damaging our local water bodies. A watershed survey will be done during the week of June 29 to July 7 th . The primary objective of the survey will be to locate as many potential pollution problems in the watershed as possible. A watershed survey helps determine where and what the problems are. Severe erosion problems, ditch and road washouts, and undercutting of stream bank slopes will be identified.

Watershed surveys can help protect water quality and aquatic life. By identifying and reducing pollutants we can correct pollution problems that are damaging our waterways. The success of this survey depends upon volunteers and landowners within the watershed survey area. The survey area encompasses Leesville Pond, Middle River, Curtis Pond, Auburn Pond, Eddy Pond, Pondville Pond, Dark Brook Reservoir, Stoneville Pond and Ramshorn Pond. Volunteers will be conducting visual surveys within predetermined sections of the watershed. Most survey areas can be completed in 2 to 3 hours. By involving residents, the people who know the area best, the program will be a true grassroots effort with technical support from municipal officials, watershed associations and state agency staff.

Get involved! Come to a Watershed Survey Training Workshop on Thursday, June 27, from 6:30 to 9:30 p.m. at Quinsigamond Village Community Center, 16 Greenwood St., Worcester. Refreshments will be served. Everyone is invited - no experience is necessary to participate in the survey and your participation would be greatly appreciated.

For more information on the Leesville Pond Watershed and Middle River Surveys, contact either Joan Crowell of the Leesville Pond Watershed and Neighborhood Association at 508-754-#### or Dave Johnson of the Quinsigamond Village Community Center at 508-755-####. Assistance is provided by the Massachusetts Lake/Watershed Stewardship Program and Adopt-A-Stream Program (Riverways Programs/ Department of the Fisheries, Wildlife and Environmental Law Enforcement). Funding is provided by the 319 Nonpoint Source Program from the Environmental Protection Agency through Massachusetts DEP.

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Two pitfalls to using mostly youth surveyors

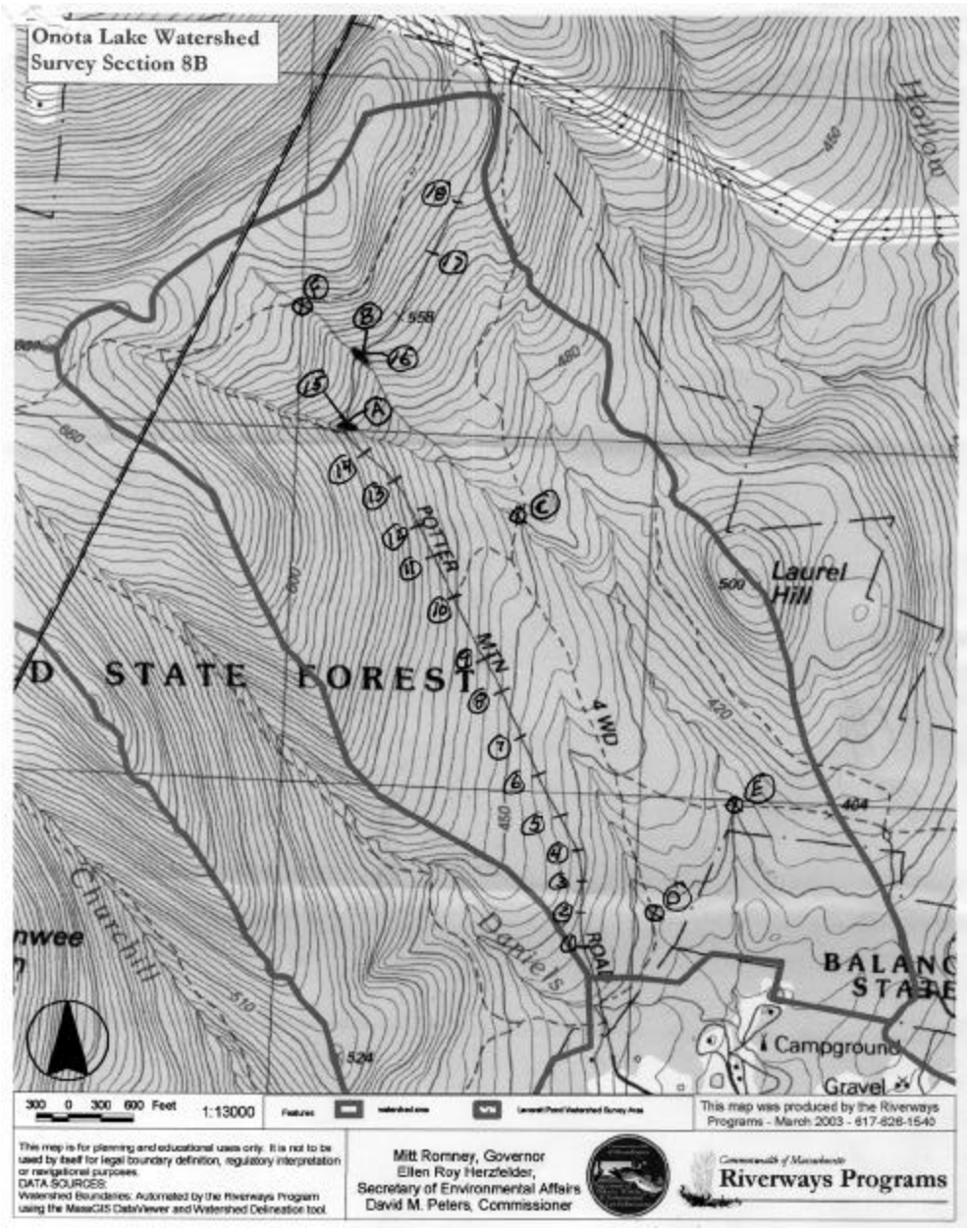
Often, when faced with a potential shortage of adults to conduct a survey, it is tempting to turn to the local schools or scout troops. A word of caution is advisable: while the average older girl or boy scout is certainly adept enough to conduct an excellent survey, there are two pitfalls groups often face when they've used mostly youth to complete a survey. First, surveys completed by students are sometimes dismissed as "kid projects," unfair though that may be. This can result in less respect for the findings, an annoying hurdle if you're using the survey report to try to justify a request for funding from the town, apply for a grant, or gain cooperation from a town body or business. Secondly, a survey completed by adults educates the adults who have a vested interest in seeing its recommendations implemented. The students will often be off to college or getting jobs in another community. On the other hand, including adult residents with some students is very effective. The interaction between adults and students provide both the scientific understanding of the water bodies and the means to work toward effective change.

Individual Survey Section Maps

Here is an example of a completed field map from an upland section of a lake watershed survey. This is an enlarged section of a USGS quadrangle map showing topography. You can also use aerial photos, municipal assessors maps (which show property boundaries), or street maps.

Encourage surveyors to record information on the map in addition to the data collection forms (photograph locations, problem sites, pipes, etc.)

Here, the surveyor numbered sites found along the road and lettered sites found along the tributary. Encourage volunteers to be clear and to use a system that makes sense to them and to the reader.



SAMPLE STEERING COMMITTEE MEETING AGENDA

Amazing Pond / Remarkable Brook Watershed Steering Committee Meeting

Proposed Agenda
7-9 PM Wednesday, June 11

Location: Town Hall, Anytown, MA

I. Introductions: name, organization, & why interested in the watershed survey

II. What is a Lake Watershed Survey?

A. Purposes of the Lake/Watershed Stewardship Program
B. Steps for Lake Watershed Surveys, Action Planning & Implementation

III. Why a Lake Watershed Survey for this watershed? How will it benefit the pond? How does a survey fit in with other environmental efforts in the area? (Group Discussion – 20 minutes)

IV. Importance of Steering Committee - purpose and people included

V. Planning and organizing a Lake Watershed Survey and follow-up Action Planning Workshops

1. Steering Committee
   - Plans steps to conduct lake watershed survey, action plan and implementation.
   - Conducts outreach, works on logistics for training workshop and action planning meetings.

2. Outreach: Informing and recruiting survey participants (Steering Committee)
   a) Who
      - Lake or stream-related organizations
      - Landowners along tributaries and lakes: how to get a list?
      - Municipal officials
      - Businesses
      - Other interested residents from around the watershed

   b) How
      - Local media outreach (Steering Committee)
      - **Critical**: Informal invitations, phone, mail, meetings, flyers, etc.

3. Preparations (Steering Committee and Riverways)
   a) Create a base map of the watershed
   b) Set survey priorities and divide watershed into sections.
      - Focus areas? Extent of survey?

4. Set Dates
   a) Training Workshop - Where & when?
      Coordinator will facilitate the meeting, provide survey instruction with interactive slide show. Steering Committee will bring maps, coordinate matching up pairs of volunteers for each survey section.
   b) Watershed Survey
   c) Action Planning Meeting

5. Later organization and Follow up – Steering Committee & Volunteers
   - Data Sheets returned (by a set date) - Steering Committee & Volunteers
   - Priority Sheets compiled – Riverways/Steering Committee

6. Where does this all lead?
   - Watershed Action Planning Meeting, Report Writing & **Implementation**

Steering Committee Tasks for a Watershed Survey and Action Planning

- **Overall Coordination:** Oversee the project from beginning to end and ensure that all logistics are covered for the Training Workshop, Watershed Survey, and Action Planning process.

- **Volunteer Coordination:** Invite people to participate in the survey and ensure they know when to meet and what to do.

- **Public Relations Coordination:** Write and distribute letters to landowners, contact local media, produce and distribute press releases, invite municipal officials and local businesses to the training workshop, and prepare follow up publicity.

- **Materials Coordination:** Create baseline maps, photocopy handouts and maps, and organize canoes if necessary.

- **Follow-up Coordination:** After the Action Planning Meeting, writing a Final Report, publicizing the results and presenting to local officials, and coordinating the implementation of the Action Plan.

2. Education and Training

WATERSHED SURVEY TRAINING

Through the interactive Watershed Survey Training workshop, the trainer provides survey participants with an overview of water quality issues, nonpoint source pollution and watershed ecology and leads them through an in-the-room watershed survey using the slide show. The Lake/Watershed Stewardship Program's interactive slide show is based on the training workshop developed by the Adopt-A-Stream Program. Volunteers see real world examples of situations they might encounter in the field, describe what they see, and discuss how they would record them in the data collection forms. Supplied with their data sheets and informed by the training, surveyors are prepared for their watershed survey. Training should be scheduled **two to four days** before the survey.

Preparing for the training

To prepare for the watershed survey training first become familiar with both the data collection forms and the training material. If you have not already participated in a watershed survey or in Riverways' Train-the-Trainer Program, conduct a sample survey yourself. This can be as simple as viewing the slideshow while reviewing both the "script" and the data forms, and then covering a small area in your own region with the forms to get acquainted with the experiences your volunteers will experience. Additionally, since every watershed is different, try to anticipate some of the questions and concerns that may be raised by the volunteer surveyors during the training (i.e. issues particular to your watershed).

Slideshow

The Lake/Watershed Stewardship Program's interactive training slide show is an 80-slide PowerPoint show contained in the compact disc. The slide show includes images from several sources and guides the survey participants though water quality and watershed background material, and step-by-step through an in-the-room watershed survey. The purpose of the slideshow is to provide a preview of the survey and to encourage viewers to be active participants. The most important question for the trainer to ask is "what do you see?" or "how would you answer the data question?" An interactive approach – not a lecture approach – is essential to the effectiveness of the training.

Data collection forms

The Data Collection Forms are also based on those used by the Adopt-A-Stream Program, with contributions from Massachusetts DEP, Riverways, the Massachusetts Water Watch Partnership, and material from the Maine Department of Environmental Protection. For technical background covering the relevance of the types of questions in the forms, consult the thorough explanations of lake ecology and lake pollution in Sections 1, 2, and 4 of DEP's *Volunteers Guide.* To take advantage of lessons learned in the field, we have included revised data forms

Case Study

The Lake/Watershed Stewardship Program's *Case Study of the Mill Brook Watershed Survey* shows how one group planned and coordinated a survey successfully. You may find it useful as a guide for your volunteers. *(see page 29)*

Technical Issues:

The Watershed Survey is about recording observations and discussing plans to address issues identified during the survey. No one person needs to have expertise in every capacity of watershed ecology - including you, the trainer. When residents ask technical questions, first ask if anyone in the room can answer the question – often there are experts among a given group of volunteers. This approach starts dialogue and provides an atmosphere where people will look to each other for answers. If there is no expert, feel comfortable suggesting that the group find someone who knows the answer or offer relevant contacts you may know (e.g. local university professor, watershed association staff, etc.).

in the *Leaders' Manual* which we recommend you save from the compact disc to allow revisions when necessary. The individual data forms include:

The **Pre-Survey Form** allows a space for people to consider what they already know about the section, (e.g. prior land uses, ephemeral characteristics such as flooding in spring, etc.) and share that information among the survey group. This can either be filled out or discussed within the survey team for their particular given section.

The **Near Shore** and **Upland Watershed Area** data questions are the backbone of the Data Collection Forms. These questions will lead surveyors from a range of specific issues to broader conclusions on the health of the watershed. It is important to emphasize that these questions are more to get qualitative information than quantitative information. Likewise, there isn't the means through these two pages of questions to spatially locate the types of issues found. The importance of the questions is to gather information on the range of issues in the watershed. The individual surveyor can go on to provide more specific information on important issues found (both assets and problems) in the Narrative Description, Section Map, Sketch Area, and Priority Sheet. It is helpful to encourage volunteers to understand it is "OK" to not know every answer. Answers are often estimates, as in percentage or acreage questions. If a particular problem needs to be better defined after the survey, a site visit can usually be arranged with assistance from someone with a more technical background.

The **Pipe Survey** sheet has room for surveyors to record information about pipes they find, including the size and material as well as commentary on what it carries, and comments on visual water quality assessments. It's helpful to remind folks to write the corresponding pipe numbers on their section map as well for follow up assessments.

The **Narrative Description** is the place for surveyors to give the big picture of their survey – a description of where they surveyed and what they found. They can refer to information they record on their map, on their Pipe Survey, and also to any photographs they took. This is the place where they describe major issues in their section.

The **Mapping Page** is pretty self explanatory – a place to sketch out a birds-eye view of a particular site.

The **Priority Sheet** is perhaps the most important page of the data collection forms. From all of the questions and from the conclusions drawn in the narrative, the surveyor compiles a list of the major problems found (erosion, runoff, trash, etc.), a list of the major assets found (good habitat, watershed-friendly development, scenic views, etc.), and a list of the items from the problems/assets columns that surveyors feel need more work. These priority sheets guide follow-up action planning meeting. At the Training Workshop, stress the importance of these sheets and again in follow-up correspondence remind folks to return their data forms completely filled out, including the priority sheets. (Consider asking volunteers to keep track of the hours they contribute to the survey. It is useful information for grant writing and even media outreach)

What to bring?
- Sign-in sheet
- Data collection forms
- Section maps
- Laptop & Projector
- Slideshow
- Big maps
- Case Study

Sign-in sheet

Bring a sign-in sheet to keep track of the survey participants, with space to record who is covering which survey section.

Survey section maps

After dividing the watershed into survey sections, prepare and bring 8.5 x 11" maps of each individual survey section. Again, DEP's *Volunteers Guide* has good information on producing these maps (page 26 and Appendix C). Sample maps are included here.

Map of the watershed

Bring a poster-size map of the lake or pond watershed. If you do not have the capacity to adequately delineate watersheds (see DEP *Volunteers Guide*, Appendix C, page C-73) and generate poster size maps, seek assistance. You may find help from one of the state agencies, or from your local watershed association or regional planning agency. Otherwise you can piece together USGS quad sheets and enlarge them with a photocopier.

FACILITATING THE TRAINING WORKSHOP

In the Watershed Survey Training Workshop your goals will be to introduce to survey participants the purpose/ intent of a watershed survey, an overview of the watershed survey process, the local background for the survey, and the survey methods and data collection forms. You will also support the volunteers as they choose their survey sections, set a timeline to have completed forms returned and choose a date for the Action Planning Meeting.

Introductions, local explanation

Introduce yourself, and then have everyone in the room introduce themselves briefly (name, organization, abutter, resident). Invite a member of the steering committee to speak briefly about the local background for the survey and the steps the committee has taken to prepare. Explain the intent of the watershed survey is to systematically look at the lake watershed to assess its resources, its challenges and together discuss how the group wished to serve as better stewards for their lake watershed. Make it clear that the survey is not meant to assign blame, or to go after an individual problem. Finally, provide an overview of the lake watershed survey process and explain the action planning and implementation work that will follow the completion of the survey.

Note: From the very beginning, explain the process to be used to address issues identified during the survey. It is important for surveyors to bring ideas for action back to the larger group for planning before taking individual action. Reinforce the idea that thoughtfully planned actions determined by the entire group are more likely to result in positive steps toward good protection and restoration efforts.

Interactive slideshow

Before beginning the slideshow, quickly run through the data collection forms. Remind surveyors to fill in the lines for surveyors' names and sections (data sheets get separated) and strongly encourage everyone to survey in pairs or larger groups for safety and a more enjoyable outing.

We have provided a narrative for the slideshow to help prepare trainers (see compact disc). Do not use it as a script at the training. Ideally, you want to encourage a conversation between yourself and the audience, and among audience members. Especially in the section where the slide show follows the data forms question-by-question, try to speak as little as possible. After reading each data question aloud, for each slide ask the volunteers questions like "What do we see here, or possible problems and assets)?" and "why might this be a problem?" or "how might we address this?" When people ask questions, where possible refer them to others in the audience (e.g. if someone asks a question about a conservation issue and the Conservation member is there, defer to their expertise). The main purpose of the training is to teach people how to look at the watershed, what it needs to be healthy, to encourage people to ask questions, and to look to each other for answers. At the end of each section of the data collection forms, be sure to check in and make sure people understand the next steps. People will take these data sheets into the field.

Matching the Volunteers with Survey Sections

When the slide show is complete and no one has any remaining questions, explain how the watershed has been divided into survey sections. The steering committee matches each volunteer with a section. If there are volunteers who want to do the survey but cannot attend the training, pair them with trained volunteers. Post one large map of the entire watershed showing the survey sections. Allow space for participants to congregate and study the map to find a section – often people choose their neighborhood or favorite fishing or swimming area. Spread out the individual section maps on a table or around the room and have surveyors check in with one of the survey organizers before they sign up or take their maps to go. If you think you'll have large numbers of surveyors (more than 30), prepare for a more elaborate process to assign sections.

Case Study of the Mill Brook Watershed Survey

The Mill Brook steering committee appointed **Survey Section Captains** for each section. These captains prepared for the training workshop with a brief windshield survey of their section. That night, they stationed themselves around the room with survey section maps and their number. A large map of the watershed showed the numbered sections; surveyors could see the person holding up that section number and go join them to discuss plans. This effective way ensured everyone easily found a survey section that interested them.

3. Coordinating the Watershed Survey Field Work

The Watershed Survey is the actual grassroots, field work to assess the health of the watershed. Trained participants walk, canoe, and drive the shorelines and upland areas of the drainage basin, cataloguing important features in the data collection forms, taking photos, and sketching maps of key sites. From their collected information, surveyors list the most important assets they found, problems they identified that need correction, and set priorities from these two lists that they deem to require action.

Survey Coordination

There will be some coordination needed before, during, and after the watershed survey. It is good to have a local contact number to handle phone calls from surveyors with questions – this could be the same contact person who is handling abutter concerns. Some groups decide to have everyone survey the same day, or the same weekend. Many groups decide that participants can go out to survey any time they like after they've been trained, as long as they complete the survey by a given date. If the entire group is surveying on the same day, consider making it a social event: have everyone meet before for coffee, or have everyone meet for a picnic when the survey is completed. Either way, be sure to be consistent with what has been promoted so that abutters will know when to look for surveyors. Likewise, it is wise to inform the local police department in advance of the times surveyors will be out and about.

Publicity - during the survey

If any reporters have provided coverage of the process, continue working with them to publicize the survey itself. Invite the media out for a photo op on the day of the event. Take photos of the surveying being done and send them to the media with a press alert. Photos could also be used later for the final report or for a photo collage for the public presentations or a library display.

Follow-up - Volunteers complete and return their forms

Volunteers will need to return their completed data collection forms so that the sheets can be read and preparations can be made for the Action Planning Meeting (see below). If volunteers have a central meeting place, forms can be collected there; otherwise, it is advisable to put the address of one of the survey organizers on the data collection forms and have all the participants drop

off their forms or mail them in by a particular date or if you have team captains, they can collect the data sheets. See the next section for more information on preparing for the Action Planning Meeting.

Preparing Priority Sheets

Preparation for the action planning meeting requires the preparation of "Priority Sheets." Having listed problems, assets, and priorities for action in their data collection forms, the volunteers return the completed forms to one of the survey organizers. You or one of the survey organizers type up the priority sheet from each section, compiling a matrix of the entire section:

Priority Sheets
Dorothy Pond / Broad Meadow Brook Watershed Surveys
June 8 & 9, 2002

Problems Found	Natural Resources and Assets Found	Priorities for Action
Grafton Hill Section 1, *Donna Williams, Marcia & Alain Grenier* 1. Steep dirt roads throughout section – runoff problems. 2. Water quality in Brook is poor at Dunkirk Ave culvert.	1. This area abuts Broad Meadow Brook Wildlife sanctuary. 2. The homes are mostly well-cared for – neat, very little trash	1. Steep dirt roads throughout section – runoff problems. 2. Water quality in Brook is poor at Dunkirk Ave culvert.
Broad Meadow West Section 2, *Donna Williams –upland, Gail Howe – near shore.* 1. Runoff and erosion from junkyards	1. Fabulous habitat! 400 acres of meadow, forested upland, …	1. Runoff and erosion from junkyards

4. Action Planning

Action Planning Meeting: Grassroots at its best

From the priorities noted in the field, the action planning meeting determines
- Immediate Action / Reporting
- Short term Actions
- Long Term Actions

It is the role of the facilitator to
- Move the meeting along
- Listen carefully to individuals and whenever possible create consensus about actions
- Provide assistance to help the group determine solutions that solve problems and protect natural resource
- Help the group decide whether their solutions are immediate, short or long term.

With questions, unresolved issues or hot topics – you don't need to have all the answers
- Ask if local people can answer the question (lots of times there are professionals, municipal officials or local experts who are donating their time as volunteers—who can answer questions)
- Create a category called "Follow up Issues" and appoint a task force to investigate and report back to the group
- Suggest (or ask for suggestions of) experts to come to future meetings and discuss

Purpose

The purpose of the action planning meeting is to guide surveyors to generate an action plan of projects to improve and protect the health of the watershed, organized by topic, timeline, and priority. The strength of this process is the high level of cooperation among residents and town officials to create a plan that is locally generated and grassroots supported.

Through the facilitated **Action Planning Meeting**, the same volunteers who surveyed the watershed cooperate to develop a plan of action to address their findings. The action planning meeting should include the volunteers, the members of the steering committee, and any other municipal officials who have responsibility for watershed management, (e.g. Conservation Commission, Board of Health, Planning Board...). The **action planning process** has proven successful for both the Adopt-A-Stream Program and the Lake/Watershed Stewardship pilot to bring people back together to consider the larger picture of what they discovered during the survey and to help them see they have the information and tools to affect positive change.

Facilitating the Action Planning Meeting

Bring enough copies of the completed Priority Sheets for everyone at the Action Planning Meeting. The "Priorities for Action" column becomes the guide for discussing the entire watershed, section-by-section. As the facilitator, you coordinate the meeting by juggling two objectives: 1.) ensuring every surveyor is heard and 2.) ensuring that a thorough plan is developed to address the findings of the survey. As facilitator, guide - not lead - the participants to their own conclusions.

Setting Ground Rules

It is helpful to set some ground rules before beginning. Summarize the steps leading to the action planning meeting and highlight that it is a grassroots process. Congratulate the volunteers for their hard work. Make sure each person introduces herself or himself and identifies their role as surveyor, abutter, or municipal official (and provides relevant background, either professional or local expertise). Set a pace for an efficient, fast moving meeting – for instance if your survey has fifteen sections to cover in a two-hour meeting you have

less than 8 minutes to spend on each section. With such time constraints, discussion must focus on priorities for action. There is not time for each surveyor to provide a full report of her or his section. Encourage people to be concise and to be considerate to those who haven't yet had their opportunity to speak. The group can also decide to carry over the meeting to another day.

Generating Action Items

Facilitate the action planning discussion with three large flip charts, each marked with a separate category for action items:
1.) Immediate Actions / Reporting Issues, 2.) Short Term Actions, and 3.) Long Term Actions. As discussion progresses section-by-section through the "priorities for action" column, encourage the group to propose action to address the priority issues and to determine whether each action is a reporting item, a short term action, or a long term action. If actions need immediate attention or should be reported because they fall under someone's official responsibility (e.g. reporting a damaged catch basin to the DPW, or failing erosion controls at a construction site to the Conservation Commission) then list them under **Reporting & Immediate Actions**. Actions that need attention and that could be accomplished over the course of a few weeks to a few months should go under **Short Term Actions**. Lastly, long term goals of the group for watershed protection and restoration should be listed under **Long Term Actions**. Long terms goals are broad overreaching projects and often include immediate and short term actions as steps.

As the meeting progresses, you will likely find sections with similar issues; it can be helpful to create categories – e.g. sites needing structural BMPs to correct stormwater problems, erosion problems or similar land disturbances affecting nonpoint source pollution, education projects, or areas needing litter cleanups. For ease of typing up the action plan later, group similar projects from various survey sections into these categories. When issues arise that fall under the purview of someone in the room (e.g. Conservation Commission member), address the issue right there in the room, and record what happens (e.g. the commission will be informed and site visit will be scheduled).

When every section is completed and your flip chart is filled with notes, move to the big picture. Sometimes there are larger issues that didn't come up as a specific priority, but have been mentioned. For example, raising awareness of the lake or a tributary as a community resource may be an important issue that didn't fall under a specific segment.

What to Bring?

- Copies of the completed Priority Sheets
- Big map of the watershed
- Flipcharts & markers
- Sign-in sheets
- Sample Final Report

Writing up the Action Plan

Get people to recommend next steps. Most groups plan a meeting to review the action plan and to choose top priority projects, and create task force committees to implement these projects. Volunteers will be needed to help with the final report; suggest specific tasks: typing the narratives, writing an executive summary. (For more about final reports see below)

The next day it's time to turn your notes into a plan: type up everything right away so you can accurately write up the plan based on the meeting. See sample action plans for formats to follow. As soon as possible, share the action plan with the group to be sure you have accurately recorded their plan as they intended.

Moving to Implementation

For the action plan to be of any value it needs to be publicized and more importantly, implemented. Acknowledge that the work of the survey has been focused on improving conditions. The action plan is a map - not a final product. Seek volunteers to take up any of the various reporting issues or short term items. While you have everyone present, schedule a follow up meeting

Warning!
New people at an action planning meeting!

It's always great to have new people jump on board to help protect our lakes and streams. When new people choose the action planning meeting as their first foray into an ongoing survey process, complications can arise. New folks won't have had the benefit of seeing the process that leads up to that point, and can sometimes be frustrated by the format. Some newcomers even arrive with a personal agenda that may be at odds with the decisions coming out of field experience. Update all newcomers on the process used to get to this point (the local planning, training, visual survey of the watershed) and encourage them to respect the hard work their neighbors have done to get there.

to discuss the action plan and to form task forces to begin work on the highest priority items *(see next chapter).*

Tips for keeping the meeting efficient and on focus:

These meetings can be very exciting and very productive. Without thoughtful facilitation they can be chaotic and long. Always remember that every public meeting is different, each with their own surprises. Try as best you can to prepare in advance for the meeting – if you see a hot-button item listed, don't avoid it. Better options are:

- Invite an expert on the subject to the Action Planning meeting to field questions.
- Study up on the topic yourself.
- Allow time for discussion of the item within the limits of the time available.
- Encourage respectful dialogue and know when to have participants "agree to disagree." Consensus is not always possible.

For example, if impacts from farms are a concern, consider inviting a farmer, or staff from Natural Resources Conservation Service or MA Department of Food and Agriculture. If surveyors list beavers as a problem, brush up on the beaver laws, bring information about management alternatives (and the benefits of having beavers) to the meeting or suggest having an expert on beavers attend subsequent meetings. You don't need to be an expert yourself, just try to provide information on the options people have or suggest someone who can help them. Lastly, when a particular issue drags on, table discussion on that item to another time to respect volunteers time.

SAMPLE ACTION PLAN: Mill Brook Watershed (Indian Lake & Salisbury Pond)

I. Reporting Problems to Officials. *From their priority items, the action planning meeting determined which items must be reported. Because these are seen as problems that directly threaten the lake or its tributaries, reporting to appropriate local or state agencies is usually a first step.* **Excerpts of their plan include the following problems reported:**

To the Conservation Commission

a) Disturbed land with poor erosion controls at a new construction site.
b) Clogged storm drains at shopping centers, trash entering feeder streams.
c) Clear-cutting of trees adjacent to a wetland area (potentially a vernal pool).

To the Department of Public Works

a) Clogged catch basins found in many sections– full list of catch basins found clogged presented to DPW.
b) List of streets and parking lots around city park's access road & parking lots that require sweeping.

To the Mayor's Office

- Four abandoned vehicles stored on conservation land.

To the City Council:

- Presentation of this action plan with a completed final report of this survey.

II. Short Term Projects. *From the combined priority list, the meeting determined some short term projects that can be accomplished within a few months. For some groups, these projects can be the first step of their long-term action that involve people immediately in watershed protection.* **Excerpts from their short term projects include:**

1. Protect Open Space

a) 8 acres of open space are slated for development. Work with owners to either save as open space or encourage watershed-friendly development, including the use of erosion controls, vegetated buffers and other BMPs.
b) Prepare a recommendation to city boards that steep, undeveloped areas of land in Dodge Park / Greendale area be saved as open space.

2. Education

Initiate education programs for residents and businesses in the watershed with information on watershed-friendly property maintenance and improvements, including topics such as vegetative buffers, composting, nonpoint source pollution, native plants, and lawn care issues.

3. Improve Water Quality

Water quality monitoring sampling sites: Test for nutrients below dam at Ararat Brook.

III. Long Term Action. *These action items can be the glue that holds a group together. They focus on the major issues.* **Excerpts from their long term actions include:**

1. Reduce Sedimentation

Excessive sedimentation is one of the major problems in the watershed; control over this sedimentation is a high priority for the stewardship team. Both the Mill Brook Task Force and the Indian Lake Watershed Association have applied separately for grant money to install sediment removal devices in catch basins draining to Salisbury Pond and Indian Lake, respectively. To adequately control sediment runoff, however, will require a longer effort including improved stormwater management, elimination of erosion problems, increased vegetated buffers around water bodies, and other protection and restoration projects. Two specific actions towards this goal include:

- **Unpaved Roads-** Reduction of sediments from private unpaved streets in the watershed.
- **Kiver Pond -** Study Kiver Pond to reduce sedimentation and maintain / improve habitat, and create a management plan. Implement management plan on Kiver Pond

2. Improve Water Quality

Improve water quality in Indian Lake, Mill Brook, Salisbury Pond, and the contributing streams and ponds in the watershed. Work towards this goal is ongoing: examples include the Blackstone Headwaters Monitoring Program (volunteer water quality monitoring) and the DPW's efforts to improve stormwater management and complete separation of sewer and stormwater systems. Continue watchdog efforts (visual observations, reporting), applying for grants, short term projects, and water quality monitoring where appropriate. On Indian Lake, replace old, undersized culverts with larger ones to improve flow and water quality. Continue support for the ILWA and the MBTF and their projects, such as the 319 Nonpoint Source projects for which they have applied. Continue and build on the partnerships among watershed associations, and the partnerships have with municipal officials and state agencies.

5. Implementation

Implementing an action plan

The entire process to plan and conduct a lake watershed survey starts from the premise that residents wish to improve watershed management to protect the natural resources in their community. Watershed protection is an ongoing effort, but completing the survey process greatly improves conditions for successful protection. The action plan provides structure and guidance, and the Final Report is an effective tool to raise awareness and secure funding. By participating in the survey itself, volunteers educate themselves about watershed ecology and the health of their own watershed. Armed with these tools and their own heightened awareness, residents stand prepared to take the next steps.

For the work to move forward, participants will have to identify both resources and barriers to implementation. Resources include volunteers with skills and environmental backgrounds, interested municipal officials, cooperative businesses, concerned landowners, and other people and factors that can make changes happen. Barriers sometimes turn into opportunities.

Facilitating an Implementation Meeting

Within the framework of an Implementation Meeting you can guide people through the crucial first steps to action (see sample agenda on page 24). Implementation begins with a general assessment of the action plan, taking account of the types of actions proposed. The action plan may have so many good ideas it may seem at times to be a "wish list." The local participants will decide which action items they will implement and the timetable. Review the immediate/reporting items with the entire group and encourage participants to report these problems. Keep track of who takes responsibility for each action.

Many groups find it useful to break out into smaller sub-committees to discuss more complicated short and long term actions. Devote time at the meeting for these break-out discussions and allot time for the groups to report back to everyone with their ideas. These break-out groups can become task force committees to implement their particular action items.

Often a good first implementation step is presenting the final report. If volunteers are having trouble deciding how to move forward on projects, focus on smaller projects that are deliverable in a short time, such as eduction efforts and outreach.

Some projects, for instance, will require technical expertise to get past the planning process: invite experts on the particular types of projects to the follow-up meeting or to a site visit. Other projects will require grants to fund purchase of materials or cost of construction, and permits might be needed before undertaking the work. Here again the trainer may be able to facilitate contact between the survey team and appropriate funding sources. Sometimes this step can be taken in advance of the survey – in a rural, farming community it can be anticipated that there will likely be watershed impacts: by involving both farmers and funders such as NRCS and DEP, the group can be prepared to consider implementation options when the time comes.

Where to find funding

The DEP *Volunteers Guide* has an excellent appendix with private, state, and local sources of funding. For more recent listings, the Riverways Programs periodically posts

a "Resources & Grants" column in its News Notes electronic newsletter (published about every three weeks). You can view the latest issue as well as back issues at Riverways web site: www.massriverways.org, or subscribe to receive an electronic copy by sending a blank e-mail to: MassRiverways-subscribe@topica.com.

Case Studies

When the participants of the Lake Warner / Mill River Watershed Survey finished their action planning they regrouped to discuss their implementation plans. One subgroup sought further training and began water quality monitoring, another group of participants met with town officials to plan a grant proposal, and people from both groups wrote a final report and presented it formally to the Select Boards of Amherst and Hadley.

In the appendix of this manual we have attached a case study of the Mill Brook Watershed Survey. The work continued beyond what is outlined there. A member of the Indian Lake Watershed Association, Michael Zylich, continued work on the report and follow up on implementation of the action items as part of his masters project for graduate school. Six months after the survey's completion, Mike tracked the progress on each action item and catalogued the range of issues identified in the survey, finally presenting this information at the annual symposium of the Massachusetts Congress of Lakes and Ponds.

At Lake Boon, members of the Lake Boon Association began work on an education campaign as part of their 319 grant, using the information gathered in the survey and the priorities chosen in the action planning process to outline the campaign. Two residents also developed a PowerPoint slide show summarizing the survey findings and presented it before the boards of selectmen in Stow and Hudson.

Acting on the Plan: Follow up Meeting

For this meeting, prepare the volunteers by sending out an agenda as well as the Action Plan ahead of time. The agenda could look like this:

Acting on the Plan
Lake Watershed Meeting
October 15, 200X

I. General comments about plan
- Finalize contents
- Determine how to publicize it
- Include it in the Final Report

II. Immediate Action—Reporting
- Specific volunteers agree to get in touch with boards—either by attending meetings, and/or by telephone and letter

III. Short Term and Long Term Projects
- By show of hands, group determines which projects are first priority
- Criteria can include: Project should
  - Solve problems
  - Interest the group—volunteers can be found
  - Educate the community
  - Be doable

IV. Break out into groups for top items and brainstorm for 15-20 minutes on ways to proceed, time table
- Collect ideas from each group and send them out as minutes to all volunteers

V. Determine next meeting that will provide opportunities for small group discussion and reporting back to group

6. Final Reports

By the end of the Action Planning Meeting, most of the material is already written for the Final Report. A good report can include:

1. **Cover** - Include title, date, who wrote the report, and photos from the survey, ideally photos of people surveying.

2. **Table of Contents** - In addition to the contents, include lists of the survey participants and steering committee members.

3. **Executive Summary** - A page or two describing who organized and participated in the watershed survey, a brief description of the watershed, a summary of the survey results, and a summary of the action plan and the group's intentions to implement it.

4. **Maps of the Watershed** - See DEP's *Volunteers Guide for information on how to obtain maps.*
5. **Narrative Summaries** - Have someone type up all the narrative summaries from each completed data collection form.

6. **Priority Sheets** - Include the priority sheets, as compiled for the Action Planning Meeting

7. **Action Plan** - Include the full action plan, with notes updating progress on implementation.

8. **Sample copy of the data collection forms -** Include a copy of the forms to provide readers with the methods used in the survey.

9. Other photos, news clippings, etc

The final watershed survey report, written by steering committee members and survey participants, establishes a record of the survey's findings and publishes the action plan.

In a concise report, the reader can learn who the participants were, why they wanted to survey, where they looked, what they learned, and what they proposed for better watershed management. It can be used to educate the general public, to inform municipal officials, or to accompany applications for funding for components of the action plan. Print several copies so you can provide copies to the library, and to the local and state agencies (e.g. the select board or city council, the conservation commission, DEP office of Watershed Management, DEM Lakes and Ponds, and the Riverways Programs).

With support of the Trainer, the members of the local steering committee to prepare the entire report – this allows the work to be shared among people and develops ownership over the report by the committee members. If people find this responsibility daunting, remind them that most of the report is already written at this point and just needs to be compiled. Provide sample reports, especially executive summaries, to the folks who volunteer to take on these tasks.

Groups will initiate publicity for their Final Report with a public presentation. Make sure to have a large crowd of surveyors attend - it

will impress officials with the commitment of your group. Formally present a copy of the report to municipal officials – choose a board or council meeting, get on the meeting's agenda and invite the local media to attend. Cable TV often covers select board or city council meetings. Take advantage of this coverage. Ask for at least twenty minutes to give the steering committee time to describe the top findings, the chief action plans, and any achievements the group has made. Be succinct and businesslike. Officials will want to comment, ask questions and show support. Such a public event, combined with media coverage, can help raise awareness in the larger community about the health of the lake watershed and efforts of the group. Publicity can also attract more volunteers to help implement the action plan.

Closing Thoughts

Thank you for reading this manual - we hope it means you are about to get your feet wet and hands dirty as you coordinate volunteers on a Lake Watershed Survey. Good luck.

As we said earlier in this guide, here at Riverways much of our work starts with the premise that people who live on the river (or in this case, lake) aren't just the ones who know it best - they are the people best able to protect it. We hope that this guide serves you well in your own efforts to organize residents to improve the health of their natural resources. The grassroots action that follows a well-done Lake Watershed Survey or Shoreline Survey leads to improvements in the quality of life for the members of the community, as well as improvements for the ecosystem on which that community depends. Thank you for caring to take action that benefits us all.

Tasks and Responsibilities

Use this task list to outline progress on the watershed survey process. Responsibility indicates who will take the lead for each task, but it is understood that each task requires collaboration.

TIMING

Some groups can complete the watershed survey and action planning process in a matter of weeks, others months. Allow enough time for the steering committee and volunteers to complete each task.

Organizing a steering committee often requires a few weeks to get the word out and set a meeting date. Outreach and volunteer recruitment likewise usually requires at least a few weeks - enough time for the steering committee to make phone calls to residents, conduct P.R., and organize logistics for the training workshop.

The survey should start no less than a 3-4 days after the training - the sooner the better so the training information is still fresh for everyone.

After the survey, participants need enough time to complete their forms (including the narrative and priority summary) and return them. The facilitator will need time to type the priority sheets. Factoring delays such as inclement weather, it is good to allow at least three weeks after the survey before the Action Planning Meeting.

Tasks	Responsibility
Organize steering committee and schedule first meeting	Local Leaders & Trainer
Facilitate first steering committee meeting	Trainer
Schedule Survey Training Workshop, Watershed Survey, and Action Planning Meeting	Steering Committee
Divide the watershed area into survey sections, prepare individual survey maps	Steering Committee and Trainer
Recruit volunteers – personal contacts, phone calls, letters, etc.	Steering Committee
Send invitations to abutters and landowners	Steering Committee
Publicize the survey: send press releases to local media, post flyers, etc.	Steering Committee
Send invitations to municipal officials, key businesses	Steering Committee
Facilitate Watershed Survey Training Workshop	Trainer
Provide copies of the data collection forms, individual survey section maps, interactive training slideshow	Trainer
Conduct the Watershed Surveys, return completed forms	Volunteer surveyors
Prepare Priority Sheets	Trainer
Facilitate the Action Planning Meeting	Trainer
Organize the writing of the Lake Watershed Survey Final Report	Steering Committee
Hold public meetings to present findings	Steering Committee
Present copies of the Report is shared with the community and local and state officials	Steering Committee
Organize meeting to prioritize actions, create task force committee to implement top priority action items	Steering Committee
Facilitate Implementation Meeting	Trainer
Conduct site visits, seek funding	Steering Committee
Implement the Action Plan	Steering Committee

LAKES AND STREAMS COVERED IN THE LAKE WATERSHED SURVEYS FROM RIVERWAYS' 2001-2003 PILOT LAKE / WATERSHED STEWARDSHIP PROGRAM

Watershed, Communities, Number of Participants, Lakes Covered and Streams Covered

1. ONOTA LAKE WATERSHED - Pittsfield
35 Participants
Onota Lake
Hawthorne Brook
Lulu Brook
Parker Brook
Daniels Brook
Churchill Brook
Unnamed Tributary

2. LAKE WARNER / MILL RIVER WATERSHED – Hadley, Amherst, Leverett & Shutesbury
20 Participants
Lake Warner
Campus Pond
Puffers Pond
Doolittle Brook
Roaring Brook
Unnamed Tributary
Unnamed Tributary

3. LEVERETT POND WATERSHED - Leverett
10 participants
Leverett Pond
Outlet stream

4. LAKE WICKABOAG WATERSHED – West Brookfield
13 participants
Lake Wickaboag
Cusky Pond
Mill River
Sucker Brook
Bradish Brook

5. LEESVILLE POND / MIDDLE RIVER WATERSHED – Auburn & Worcester
19 participants
Leesville Pond
Curtis Pond North
Curtis Pond South
Auburn Pond
Pondville Pond
Eddy Pond
Stoneville Pond
Blackstone River
Middle River
Kettle Brook
Dark Brook
Dunn's Brook

6. MILL BROOK WATERSHED - Worcester
22 participants
Indian Lake, Worcester
Salisbury Pond, Worcester
Mill Brook
Ararat Brook
Bonny Brook
Weasel Brook
Kendrick Brook
Delaney Brook

7. DOROTHY POND / BROAD MEADOW BROOK WATERSHED – Millbury & Worcester
26 participants
Dorothy Pond
Dorothy Brook
Broad Meadow Brook
Croyden Street Stream
Wheelock Ave Stream

8. LAKE BOON WATERSHED – Stow & Hudson
23 participants
Lake Boon
Unnamed Tributary

9. THREE PONDS WATERSHED - Sandwich
17 participants
Triangle Pond
Lawrence Pond
Spectacle Pond